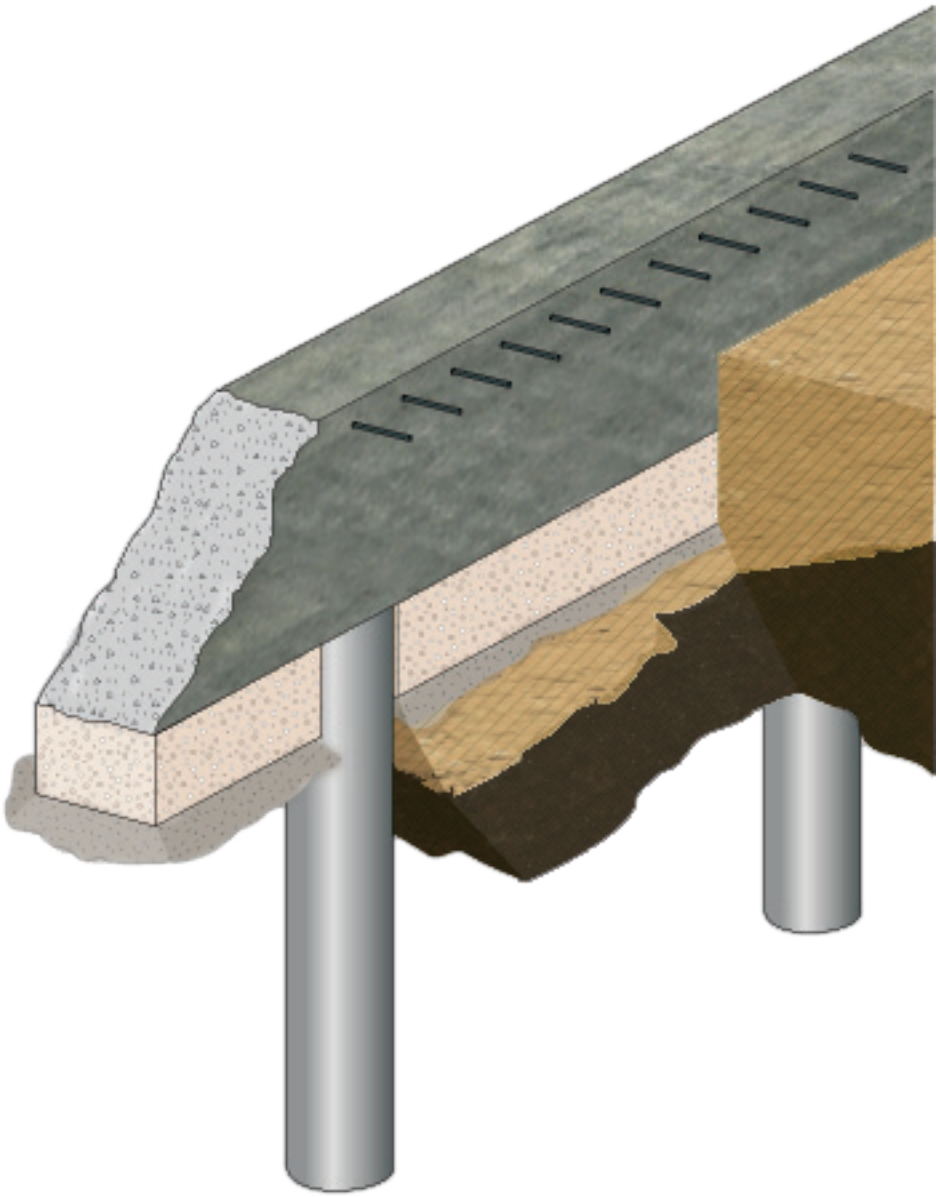
GeoSpan® COMPRESSIBLE FILL

Engineered compressible fill material

Plasti·Fab® EPS PRODUCT SOLUTIONS

Better building ideas from PFB™



Features & Benefits

- *Compressible medium under concrete grade beams, structural floor slabs, and against foundation walls*
- *Supports expected construction live loads, and the weight of the structural slab until the concrete has cured and gained enough strength to be self supporting.*
- *Unaffected by water*
- *Dimensions can be easily adjusted on the job site*
- *Does not support the growth of mold, insects and vermin*

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Main Applications:
Compressible material under concrete grade beams, structural floor slabs, and against foundation walls.

Benefits:
- Supports expected construction live loads, and the weight of the concrete structure until it has cured and gained enough strength to be self supporting
- Not reliant on profiles
- Displaces 100% of excavation
- Does not support growth of insects or vermin
- Dimensions can be adjusted easily on the job-site

Application:

Design Criteria
GeoSpan compressible fill material is supplied to the customer pre-cut to the required dimensions. The standard length is 2440 mm (96″). Required dimensions for width up to 1220 mm (48″) and thickness up to 610 mm (24″) are provided to job specifications.

The required thickness of GeoSpan compressible fill material is determined based upon the following criteria:

- Self-weight the structure temporarily supported
- Net structural uplift resistance capacity of the structure
- Maximum GeoSpan compressive strength (U)
- Maximum anticipated soil swell (E)

Notes
1. Maximum GeoSpan compressive stress (U) is equal to the maximum compressive stress anticipated on the long term after compression induced by soil swell.
2. The net structural uplift load is the maximum GeoSpan compressive stress less the self-weight of the structure.
3. The GeoSpan final strain (D) is determined from the graph of compressive stress versus deformation provided based upon the maximum GeoSpan compressive stress (U).
4. The required thickness (T) of GeoSpan compressible fill material is then calculated using the following formula:

$$T = \frac{E \times 100}{D}$$

Design Example
The thickness of GeoSpan compressible fill material required under a 750 mm grade beam can be determined as follows:

- Self-weight of structure temporarily supported = 18 kPaNet
- Net structural uplift resistance capacityof the structure = 32 kPa
- Maximum GeoSpan compressive strength (U) = 50 kPa
- Maximum anticipated soil swell (E) = 50 mm

From the graph of Compressive Strength (U) vs. % Deformation (D) provided, the value of D at the maximum allowable stress transfer is equal 50%. GeoSpan required thickness (T) is calculated as follows:

$$T = \frac{50 \times 100}{50} = 100\text{mm}$$

Quality Control Testing
Designers are cautioned that GeoSpan compressible fill material utilizes different manufacturing and testing criteria than standard EPS insulation board in order to obtain the engineered properties necessary for this application. The physical properties of GeoSpan compressible fill material are controlled within close tolerances during manufacture.

Specification
Section 3300, Cast-In-Place Concrete.

PART 2: PRODUCTS

Materials
GeoSpan compressible fill material, manufactured by Plasti-Fab, in dimensions specified on drawings to conform to the requirements of the project engineer.

Note: See Plasti-Fab PIB 277 for additional information on Plasti-Fab compressible fill materia ls.